

Addition of Electric Vehicle Maintenance Service Scope to the Voluntary Registration Scheme for Vehicle Mechanics

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2-4. Addition of Electric Vehicle Maintenance Service Scope to the Voluntary Registration Scheme for Vehicle Mechanics

RVM Newsletter Issue No. 43 mentioned that three levels of electric vehicle (EV) maintenance service scope would be added to the Voluntary Registration Scheme for Vehicle Mechanics (VRSVM). This issue will first publish the terms of reference of these three levels and information on EV maintenance courses, whereas the next issue will publish the requirements for becoming registered vehicle maintenance workshops. Please stay tuned!

Purpose of Adding EV Maintenance Service Scope

When compared with traditional fuel (petrol and diesel) vehicles, EVs involve different and complex electrical and mechanical technologies, and the voltage of their device can generally be as high as 800 volts or more. Therefore, unique occupational safety risks arise in terms of maintenance. Improper operating or repairing EVs can result in serious injuries or even death. In order to let registered vehicle mechanics (RVMS) keep abreast of the latest technological developments of EVs, grasp the necessary knowledge and techniques, and maintain EVs effectively and safely, thereby reducing the risk of electric shocks during EV maintenance, three new levels of EV maintenance service scope will be added to the VRSVM, while existing RVMS will be subsumed under the service scope of internal combustion engine vehicles. The categories of maintenance service scope and their codes are as follows:

- Internal Combustion Engine Vehicle (Code: IC)
- Electric Vehicle (Elementary) (Code: EVE)
- Electric Vehicle (Low Voltage) (Code: EVL)
- Electric Vehicle (High Voltage) (Code: EVH)

Each registered service class and its corresponding level of EV maintenance service scope that can be added have been mentioned in RVM Newsletter Issue No. 43 and will not be reiterated in this issue.

Please scan the QR code to review RVM Newsletter Issue No. 43:



Terms of Reference of Each Level of EV Maintenance Service Scope

With reference to standards from different places of the world, the definitions of low voltage and high voltage systems for EVs are as follows:

	Direct Current Voltage	Alternating Current Voltage
Low Voltage System	Not exceeding 60 volts	Not exceeding 30 volts root mean square
High Voltage System	Exceeding 60 volts but not exceeding 1 500 volts	Exceeding 30 volts root mean square but not exceeding 1 000 volts root mean square

A. EVE Maintenance Service Scope

- RVMs can carry out electric vehicle maintenance work as regards their registered service classes;
- If the electric vehicle maintenance work requires “power-off” or “power-on” procedures, the work must be done by an RVM in the service class of Mechanical (M), Electrical (E), Body Repair (B1), Body Painting (B2) or Motorcycle Maintenance (S1) with the newly added EV maintenance service scope.

Note: RVMs within the EVE maintenance service scope cannot:

- Isolate a high voltage vehicle traction battery system (“power-off”);
- Restore a high voltage vehicle traction battery system (“power-on”); and
- Diagnose, test, repair, dismantle, replace, and install an EV high voltage system or its components.

B. EVL Maintenance Service Scope

While wearing appropriate personal protection equipment (PPE), RVMs can perform relevant EV maintenance work as regards their registered service classes, which includes:

- Operating specific maintenance plugs or devices to isolate a high voltage vehicle traction battery system (“power-off”);
- Operating specific maintenance plugs or devices to restore a high voltage vehicle traction battery system (“power-on”);
- Diagnosing, testing, repairing, dismantling, replacing, and installing an EV low voltage system or its components; and
- In the case of effectively isolating the high voltage vehicle traction battery system, using a “one-to-one” method to dismantle, replace, and install an EV high voltage system or its components.

Note: RVMs within the EVL maintenance service scope cannot:

- Diagnose, test, or repair an EV high voltage system or its components in a situation where effective isolation of the high voltage vehicle traction battery system is not possible (“live condition”); and
- Diagnose, test, repair, dismantle, replace, and install the entire fixed vehicle traction battery and its high voltage wires.

C. EVH Maintenance Service Scope

While wearing appropriate PPE, RVMs can perform relevant EV maintenance work as regards their registered service classes in registered EVH maintenance workshops, which includes:

- Insulating a high voltage vehicle traction battery system ("power-off");
- Restoring a high voltage vehicle traction battery system ("power-on");
- Diagnosing, testing, repairing, dismantling, replacing, and installing an EV high voltage system or its components when it is not possible to effectively isolate the high voltage vehicle traction battery system,
- Using a "one-to-one" method to dismantle, replace, and install the entire fixed vehicle traction battery (excluding internal disassembly and maintenance); and
- Performing work within the EVL maintenance service scope.

Practitioner Training

EV maintenance training courses will be organised by appropriate training institutes or organisations, and their course design shall be approved by the Vehicle Maintenance Technical Advisory Committee (VMTAC). Given that the work of different registered service classes will involve high voltage or low voltage systems of EVs, and each level of EV maintenance service scope also has different technical requirements, the VMTAC has formulated the accreditation criteria for the three levels of EV maintenance service scope, such as the competence standards of students after completing the courses, minimum training time, training equipment, etc., to ensure that practitioners have mastered the necessary knowledge and techniques to effectively and safely maintain EVs. The training courses are arranged progressively as follows:

1. Electric Vehicle Maintenance Safety Awareness Course
2. Electric Vehicle (Low Voltage) Maintenance Course; and
3. Electric Vehicle (High Voltage) Maintenance Course

(1) Electric Vehicle Maintenance Safety Awareness Course

All persons related to EV maintenance are welcome to take this course. After completing the course, vehicle mechanics who have registered for Specific Service Classes S2 to S7 can apply for the addition of EVE maintenance service scope to their service classes, so as to provide registered specific services (S) for EVs.

(2) Electric Vehicle (Low Voltage) (EVL) Maintenance Course

The targets for EVL maintenance course are vehicle mechanics who have registered for the service classes of Mechanical (M), Electrical (E), Body Repair (B1), Body Painting (B2) and Motorcycle Maintenance (S1), so that they can carry out maintenance work as regards their own service classes and within the EVL maintenance service scope.

(3) Electric Vehicle (High Voltage) (EVH) Maintenance Course

The targets for the EVH maintenance course are:

- (i) persons who have completed an EVL maintenance course approved by the VMTAC; or
- (ii) RVMs who have added the EVL maintenance service scope,

so that they can carry out maintenance work as regards their own service classes and within the EVH maintenance service scope to provide all EV maintenance services.

Registration and Renewal of RVMs at Each Level of EV Maintenance Service Scope

After completing the EV maintenance courses approved by the VMTAC, existing RVMs can apply to register for the corresponding EV maintenance service scope in order to perform the corresponding EV maintenance work. Besides, vehicle manufacturers or their authorised after-sales service providers (original manufacturers) can recommend incumbent RVMs who are capable of performing EVL/EVH system maintenance to apply to register for corresponding level of EV maintenance service scope. When making this kind of applications, the original manufacturers must submit the recommended RVMs' training records, and prove that the training the RVMs have received meet the accreditation criteria set by the VMTAC.

Registration for EV maintenance service scope will not affect the 3-year validity period of the existing registration (i.e., the validity period on the newly issued Registration Card for Vehicle Mechanic will remain unchanged after the registration for EV maintenance service scope), nor will the application and renewal conditions for the current registration scheme be changed (a minimum of 1.5 years of in-service records in the relevant vehicle maintenance service class and at least 20 hours of continuous professional development records within the previous 3-year registration period are necessary). Yet, RVMs who have registered for EV maintenance service scope should choose continuous professional development courses related to EV safety.

After the addition of EV maintenance service scope, the Registration Card for Vehicle Mechanic will be updated accordingly to show the service class. A sample is attached below:

EV Maintenance Safety Awareness and Training Course Information (continuously updated):

Before the deadline for this newsletter (April 2024), the VMTAC has adopted an “early and pilot implementation” approach to accept 8 EV maintenance courses offered by 4 organisations. For details, please scan the QR code below:



Guidelines for EV Maintenance Work

The Electrical and Mechanical Services Department, together with the VMTAC, has compiled the Practice Guidelines for Electric Vehicle Maintenance for the industry with reference to relevant international standards. The guidelines draw up a list of recommendations for EV maintenance facilities, including PPE, first aid equipment, fire-fighting facilities, site settings, as well as testing and repair tools, to ensure the safety of EV maintenance work. For details, please scan the QR code below:



8-9. Latest Updates of Vehicle Maintenance Registration Unit

The Voluntary Registration Scheme for Vehicle Mechanics Accepts Qualifications Recognised under the Recognition of Prior Learning Mechanism

To further enhance the professional standards of registered vehicle mechanics (RVMs) and meet the development needs of the industry, from 3 July 2023 onwards, the Hong Kong Qualification Framework (HKQF) Level 3 qualifications in the main service classes (i.e. Mechanical Services [M], Electrical Services [E], Body Repair [B1] and Body Painting [B2]) that are acquired under the Recognition of Prior Learning (RPL) mechanism of the automotive industry (the Recognition Mechanism) and acknowledged by the Vocational Qualifications Pathway are accepted as the recognised qualifications for registration in the relevant service classes under the Voluntary Registration Scheme for Vehicle Mechanics (the VRSVM). RVMs of the four main service classes under the VRSVM can obtain the Statement of Attainment at Level 3 in the service classes they registered for through the Recognition Mechanism without undergoing any tests and assessments. From 3 July 2023 when the scheme commenced to mid-April 2024, a total of 642 applications were received. The results were very encouraging. After the launching ceremony of the Application of the RPL Mechanism to the VRSVM organised by the Electrical and Mechanical Services Department (EMSD) on 17 November 2023 (See Issue No. 44 for details), the trade has gained a more thorough understanding of the VRSVM and Recognition Mechanism. It is expected that the number of applicants will continue to rise.

As for vehicle mechanics who have not yet registered and RVMs of Specific Services [S] Classes, they can apply for registration as an RVM of a main service class by obtaining a Statement of Attainment at Level 3 in the relevant service class through the Recognition Mechanism (See Issue No. 42 for details). A vehicle mechanic who has successfully obtained a Statement of Attainment can apply to the Vehicle Maintenance Registration Unit (VMRU) to enlist as an RVM of the relevant service class after obtaining sufficient work experience and continuing professional development training hours. From 3 July 2023 when the scheme commenced to the end of March 2024, the Vocational Training Council (VTC) received a total of 250 applications, 78 of which had successfully passed the tests and assessments (39 in Mechanical Services, 32 in Electrical Services, 3 in Body Repair and 4 in Body Painting). The applicants were awarded HKQF Level 3 Statements of Attainment in the relevant service classes, thereby acquiring qualifications recognised by the industry and enhancing their professional status.

Enquiries

If you have any enquiries about the VRSVM and Recognition Mechanism, please contact the VMRU on 2808 3545 (for matters related to the renewal of registration of RVMs) or the VTC on 3907 6868 (for the RPL arrangements).

Does it concern me?

The Electrical and Mechanical Services Department, Vehicle Maintenance Technical Advisory Committee, Qualifications Framework Secretariat and Vocational Training Council have joined hands to apply the Recognition of Prior Learning (RPL) mechanism of the automotive industry and add four new qualifications related to the main service classes of registered vehicle mechanics to the Voluntary Registration Scheme for Vehicle Mechanics (VRSVM). Details are as follows:



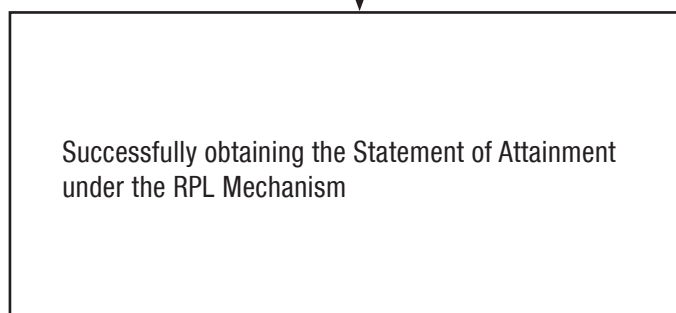
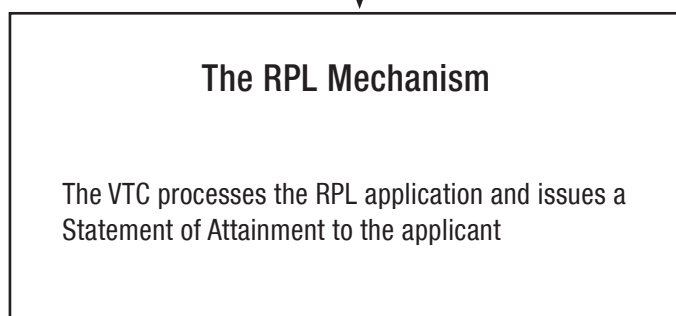
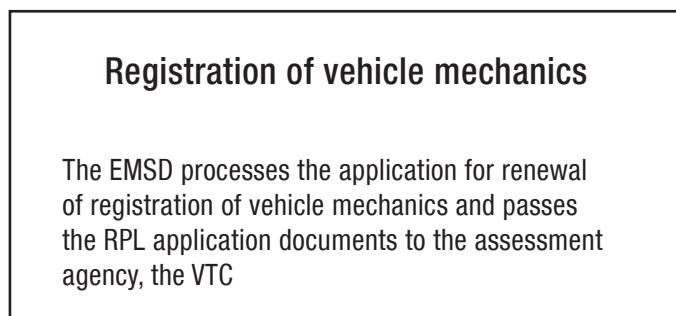
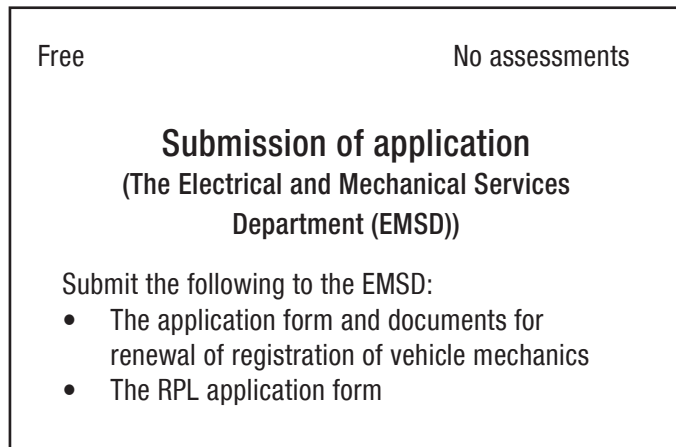
Class of Registration under the VRSVM	Hong Kong Qualifications Framework RPL Qualification
Mechanical Services [M]	Vehicle Servicing (Mechanical Services) (Level 3)
Electrical Services [E]	Vehicle Servicing (Electrical Services) (Level 3)
Body Repair [B1]	Vehicle Servicing (Body Repair) (Level 3)
Body Painting [B2]	Vehicle Servicing (Body Painting) (Level 3)

* For details of the RPL Qualifications, please visit the Qualifications Register website at www.hkqr.gov.hk

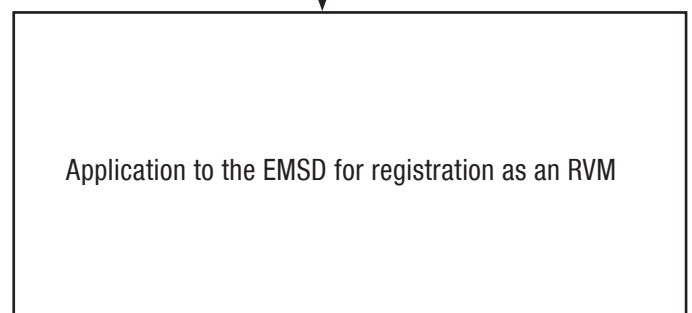
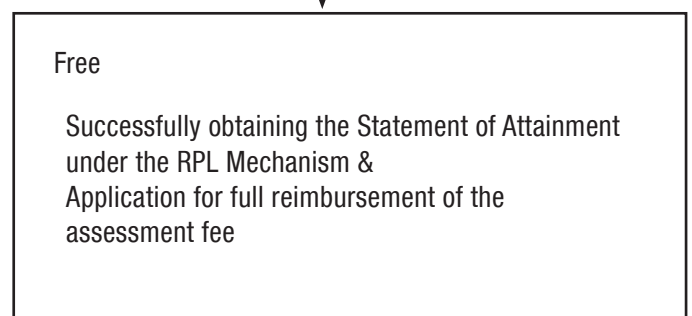
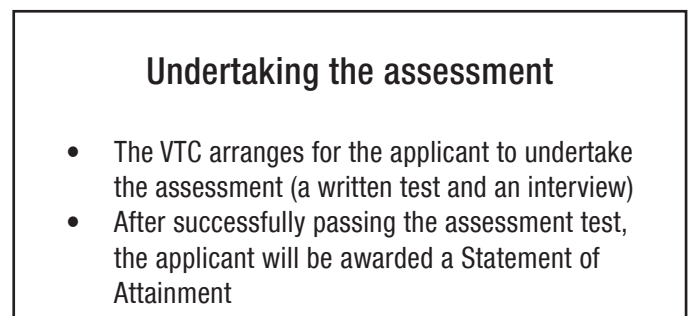
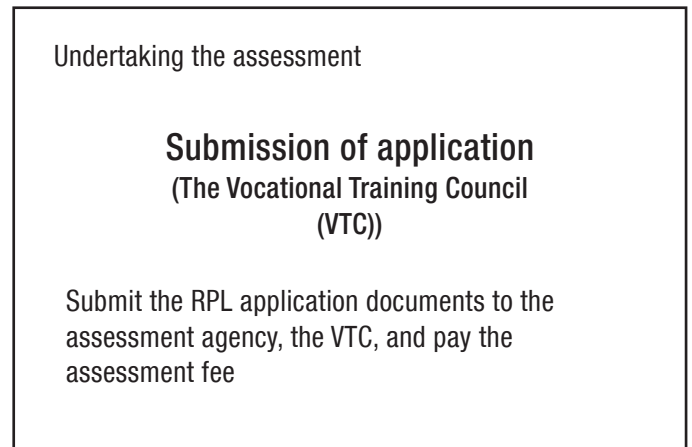


Vehicle mechanics, whether registered or unregistered, can obtain the Hong Kong Qualifications Framework Level 3 qualifications under the Recognition of Prior Learning (RPL) mechanism and meet the registration requirements. Please refer to the image below for details:

Registered vehicle mechanics (RVMs) of the four main service classes



Vehicle mechanics who have not met the registration requirements



10. Latest Developments of the Registration Schemes

- 1 Registered vehicle mechanics who have switched to work in another vehicle maintenance workshop should notify the Vehicle Maintenance Registration Unit (VMRU) **by e-mail (vmru@emsd.gov.hk) the name, address and telephone number of the new workshop.**
- 2 If there is any change in the information of the vehicle maintenance workshop (such as name of the workshop, registration number of the workshop, address, contact number and business registration certificate, etc.) or alteration in the type of workshop being registered, the person-in-charge of the workshop must, **within 14 working days** of such change, notify the VMRU of the change in writing, and submit the relevant documents for processing.

Information on the Voluntary Registration Scheme for Vehicle Mechanics:

Total number of vehicle mechanics	9 668 ^{Note 1}
Number of registered vehicle mechanics (as at the end of April 2024)	7 778

Information on the Voluntary Registration Scheme for Vehicle Maintenance Workshops

Total number of vehicle maintenance workshops	2 668 ^{Note 2}
Number of registered workshops (as at the end of April 2024)	1 963

Note1: 2019 Manpower Survey Report (updated in November 2023) by the Vocational Training Council and the Automobile Training Board

Note2: Database of the VMRU (updated in August 2023)

If you wish to help protect our environment by receiving electronic copies of the RVM Newsletter and other relevant leaflets, please send us the completed reply slip by e-mail (vmru@emsd.gov.hk) or WhatsApp (9016 3185). We will contact you by e-mail or mobile communication as far as possible.

Reply Slip

I/My company would like to receive the RVM Newsletter and other information leaflets by e-mail/ WhatsApp.

Please provide the relevant contact details for the above selected means of communication:

Name: _____ Vehicle Mechanic Registration No.: VM _____

E-mail address: _____ WhatsApp: _____



The electronic copy of the RVM Newsletter is also available on the EMSD website:

https://www.emsd.gov.hk/en/supporting_government_initiatives/registration_scheme_for_vehicle_maintenance/publications_and_circulars/rvm_newsletter/index.html

Note

1. Starting from 15 July 2018, new application for registration as Type Four workshop (i.e. a workshop situated at a residential building or a composite building with domestic part) is no longer accepted. Furthermore, requests for conversion from a registered Type One, Type Two or Type Three workshop to a Type Four workshop will not be entertained.
2. Applicants should affix sufficient postage and provide a return address when posting renewal application forms with envelopes not provided by the EMSD. If the postage is insufficient, the EMSD will not pay for any outstanding postage or accept the mail item concerned, which will be returned to the sender (if a return address is provided) or disposed of by the Hongkong Post.

11. Prize Quiz Issue No. 45

- Q1.** Given that the current Voluntary Registration Scheme for Vehicle Mechanics only covers maintenance services for internal combustion engine vehicles, which level of electric vehicle (EV) maintenance service scope does the Vehicle Maintenance Technical Advisory Committee recommend to add?
- A** Electric Vehicle (Elementary) (Code: EVE) **B** Electric Vehicle (Low Voltage) (Code: EVL)
C Electric Vehicle (High Voltage) (Code: EVH) **D** All of the above
- Q2.** With reference to standards from different places of the world, which of the following definitions of low voltage and high voltage systems for EVs are correct?
- A** Low voltage system: Direct current voltage does not exceed 60 volts, and alternating current voltage does not exceed 30 volts root mean square
B High voltage system: Direct current voltage exceeds 60 volts but not more than 1 500 volts, and alternating current voltage exceeds 30 volts root mean square but not more than 1 000 volts root mean square
C All of the above
D None of the above
- Q3.** Which of the following terms of reference do not fall within the EVE maintenance service scope?
- A** Isolating a high voltage vehicle traction battery system ("power-off")
B Restoring a high voltage vehicle traction battery system ("power-on")
C Diagnosing, testing, repairing, dismantling, replacing, and installing an EV high voltage system or its components
D None of the above falls within the EVE maintenance service scope
- Q4.** Which of the following terms of reference do not fall within the EVL maintenance service scope?
- A** Diagnosing, testing, or repairing an EV high voltage system or its components in a situation where effective isolation of the high voltage vehicle traction battery system is not possible ("live condition")
B Operating specific maintenance plugs or devices to isolate a high voltage vehicle traction battery system ("power-off")
C Operating specific maintenance plugs or devices to restore a high voltage vehicle traction battery system ("power-on")
D Diagnosing, testing, repairing, dismantling, replacing, and installing an EV low voltage system or its components
- Q5.** Which of the following persons are the targets for the EVL Maintenance Course?
- A** Vehicle mechanics who have registered for Specific Service Classes S2 to S7
B Vehicle mechanics who have registered for the service classes of Mechanical (M), Electrical (E), Body Repair (B1), Body Painting (B2) and Motorcycle Maintenance (S1)
C All of the above
D None of the above

How to participate (Issue No.45)

Let's protect the environment and submit the answers online! Please scan the QR code or click on the link (<https://vmcpd.emsd.gov.hk>) to log into the VM Learning Station to submit the answers. Vehicle mechanics may also complete the form below, circle the correct answers, and send it to the VMRU by post or e-mail (vmru@emsd.gov.hk).



Deadline: 31 July 2024

Question	Answer			
Q1	A	B	C	D
Q2	A	B	C	D
Q3	A	B	C	D
Q4	A	B	C	D
Q5	A	B	C	D

Name: _____

Vehicle Mechanic Registration No.: VM _____

E-mail Address: _____

Contact Tel. No.: _____









- Participants who answer all the questions correctly will earn one CPD hour and be notified by the VMRU individually.
- Only registered vehicle mechanics with valid registration may participate, each not more than once in each quiz. If you have already submitted your answers at the VM Learning Station, submission by post, fax or email is not necessary.
- If there are duplicate submissions, only the last answers submitted before the deadline will be accepted.
- The decision of the VMRU on the quiz will be final.
- The correct answers will be announced in the next issue of the RVM Newsletter.

The answers for RVM Newsletter Issue No. 44 are as follows:

Question	1	2	3	4	5
Answer	C	C	B	D	D

12. Training Institutes

Providing Continuing Professional Development Courses for Vehicle Mechanics (in random order)

Name of Training Institute	Website/Content	Enquiry Tel. No.	QR Code
Traffic Services Employees Association	http://www.facebook.com/tseahk	2575 5544	
Pro-Act Training and Development Centre (Automobile)	<p>http://www.proact.edu.hk/automobile Certificate in Vehicle Mechanical Repair#, a programme run by the Pro-Act Training and Development Centre (Automobile), may serve as another means for qualifying as registered vehicle mechanics. Mechanics who are interested in enrolling in the above programme may visit the website of the Centre.</p> <p># For details and latest developments of the programme, the information issued by the Pro-Act Training and Development Centre shall prevail.</p>	2449 1310	
The Institute of the Motor Industry Hong Kong	<p>http://www.hkimi.org.hk The Institute of the Motor Industry Hong Kong (IMIHK), formerly known as the Institute of the Motor Industry (IMI) - Hong Kong Branch, brings the mission and vision of the IMI to the Hong Kong automobile industry. After the reunification in 1997, the IMI - Hong Kong Branch applied to be renamed the IMIHK in Hong Kong. Eligible members of the trade are welcome to join the IMIHK or enroll in its courses or talks.</p>	2625 5903	
Hong Kong Vehicle Repair Merchants Association Limited	https://www.facebook.com/HKVRMA/	2399 7977	
Hong Kong Vehicle Repairing Industry Employee General Union	http://www.vrunion.hk	2393 9955	
Occupational Safety and Health Council	<p>http://www.oshc.org.hk The Safety Handling of Chemicals course aims to provide employees with basic knowledge of the safe handling of chemicals. The course content includes hazards of chemicals, labelling of chemicals, safety precautions, personal protective equipment, emergency procedures, etc. For more course details, please contact the Occupational Safety and Health Training Centre.</p>	2311 3322	
The Society of Operation Engineers (Hong Kong Region)	http://www.soe.org.hk	2617 0311	
Qualifications Framework recognised courses	http://www.hkqr.gov.hk	2836 1700	

Gentle Reminder

The content in each issue helps you catch up on the development of the registration schemes and enhance the quality of service. Please stay tuned!

Each issue is available for downloading on the EMSD website:

https://www.emsd.gov.hk/en/supporting_government_initiatives/registration_scheme_for_vehicle_maintenance/publications_and_circulars/rvm_newsletter/index.html



For enquiries on the content of the RVM Newsletter, please contact the VMRU of the EMSD.

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